I subjoin the equatoreal co-ordinates:

$$M = 131^\circ\ 13'\ 47''.17 + 0''.1376\,t + 1''.001\,E$$
$$N = 40\ 30\ 53''.87 + 0''.1361\,t + 0''.991\,E - 0''.11\,d\omega$$
$$P = 55\ 28\ 54''.94 + 0''.1335\,t + 0''.976\,E - 0''.60\,d\omega$$

$$\text{Log } m = 0.3682635 - 0.081\,t - 0.59\,E$$
$$\text{Log } n = 0.3344921 - 0.047\,t - 0.26\,E - 8''.7\,d\omega$$
$$\text{Log } p = 9.9650937 + 0.777\,t + 5''.22\,E + 47''.6\,d\omega$$

$$\mu = -0.4001906 + 2''.414\,t + 17''.57\,E$$
$$\nu = -0.3198253 - 2''.435\,t - 17''.80\,E + 8''.4\,d\omega$$
$$\varpi = -0.1732753 - 1''.081\,t - 7''.72\,E - 15''.5\,d\omega$$

The co-ordinates referred to the true equinox are,

$$x = m \sin (M + \xi) + \mu$$
$$y = n \sin (N + \xi) + \nu$$
$$z = p \sin (P + \xi) + \varpi$$

where t denotes the days from the epoch, 1848, Jan. 1·0

E	the Equation of the Equinoxes in Longitude.
$d\omega$	the Obliquity $- 23^\circ 27' 23''$
ξ	the Excentric Anomaly.

The variations of log m, &c. are to be applied as if all the figures in log m, &c. were *integral* numbers.

SATELLITES OF SATURN.

Observations of Mimas, *the closest and most interior Satellite of Saturn.* By Mr. Lassell.

"It is to be regretted that, owing to the discovery of the closest two satellites of *Saturn* having been made at a period long after the five others became known, it is difficult, in referring to the individuals, to quote them by numerals which shall, explicitly and without ambiguity, point out which satellites are meant.

"Sir John Herschel, seeing this difficulty, has invented and published in his Cape Observations a nomenclature which completely removes it, and moreover will retain its precision should any more satellites hereafter be discovered. He gives a proper name to each of them, and, beginning with that nearest to *Saturn*, designates them thus: *Mimas*, *Enceladus*, *Tethys*, *Dione* *Rhea*, *Titan*, and *Japetus*. I cannot but think this nomenclature a great improvement, and worthy of general adoption.

"Of *Mimas*, the satellite I now refer to, I have obtained, in all, five observations:—

"1846, Aug. 25. About 11½ p.m. M.T. the satellite appeared at its greatest elongation westward. Aug. 30. The satellite ap-

peared a little short of its greatest elongation eastward; and again, on the 1st Sept. at 10 p.m., the satellite appeared a little beyond its greatest eastern elongation.

"During the late opposition of *Saturn*, although I have been very watchful of opportunities, I have been able to see it certainly but twice, viz. on the 16th October and 18th November.

"On the 16th Oct. at 8^h35^m M. T. *Mimas* was, as nearly as I could estimate, exactly at its greatest western elongation, appearing to be five or six tenths of the length of the preceding arm of the ring distant from its extremity. This evening the satellite was better seen than on any other occasion.

"On the 18th Nov. at about $8\frac{1}{2}$ hours, the satellite again appeared as nearly as possible in the same situation as on the 16th October. The power with which *Mimas* was generally best seen is a Coddington lens magnifying 567 times. The difference of visibility between *Mimas* and *Enceladus* is almost incomparable, the latter being instantly seen in my telescope, under all tolerable circumstances, when within 40° or 50° of its greatest elongation; whilst in any but the very finest circumstances *Mimas* is an object of great difficulty."

SATELLITES OF URANUS.*

Observations by Mr. Lassell.

"These observations are principally of the two brightest, those first observed by Sir W. Herschel, or I and II, with estimations of two others, presumed to be his inferior and middle satellites, or 1 and 2. I have not been able to obtain an undoubted observation of any satellite exterior to II.

"The observations are made in position and distance, like those of a double star. The positions are reckoned from the north point as zero, round by the *following* side.

"The results here presented are generally the means of two or three measures. The observations of the I and II, graphically projected, shew *apparently* elliptic orbits, having their transverse axes very nearly perpendicular to the plane of the ecliptic and the proportions of the axes, roughly, as 10 to 6.

"The results marked *e* are careful *estimations* only.

"As to the single observation of the satellite 2, there was unquestionably a point of light at the place indicated, which kept its relative position to the planet for about two hours. Moreover, that part of the sky in which *Uranus* was seen on Nov. 6 was carefully scrutinised on Nov. 8 without my being able to detect any stars in the places where the four satellites had been seen."

* As a temporary nomenclature, we call the two first discovered satellites I and II, and the others 1, 2, 3, 4, reckoning from the planet.